

BOARD MEETING DATE: April 4, 2014

AGENDA NO. 20

REPORT: Legislative Committee

SYNOPSIS: The Legislative Committee held a meeting on Friday, March 14, 2014. The next Legislative Committee meeting is scheduled for Friday, April 11, 2014, at 9 a.m. in Conference Room CC8.

The Committee deliberated on the following agenda items for Board consideration and recommended the following action:

<b>Agenda Item</b>	<b>Recommendation Action</b>
AB 2208 (Allen) California Environmental Quality Act: Southern California International Gateway Project	OPPOSE
Amendment to Gonzalez, Quintana & Hunter, LLC Contract	APPROVE
S. 488 (Stabenow) H.R. 1027 (Peters) Advanced Vehicle Technology Act of 2013	SUPPORT AND RECOMMEND AMENDMENTS

**RECOMMENDED ACTION:**

Receive, file this report, and approve agenda items as specified in this letter.

Josie Gonzales  
Chair  
Legislative Committee

### **Attendance [Attachment 1]**

The Legislative Committee met on March 14, 2014. Committee Chair Supervisor Josie Gonzales was present at SCAQMD's Diamond Bar headquarters. Committee Members Supervisor Michael D. Antonovich, Mayor Judy Mitchell, Dr. Clark E. Parker, Sr. and Councilmember Joe Buscaino attended via teleconference. In addition, Dr. William Burke, Governing Board Chair, was appointed to the committee for this meeting and attended via teleconference.

### **Update on Sacramento Legislative Issues**

Paul Gonsalves of Joe A. Gonsalves & Son, SCAQMD state legislative consultant, briefed the Committee on key Sacramento issues.

Mr. Gonsalves reported the state Legislature is in the second year of a two year session and the bill introduction deadline passed on February 21<sup>st</sup>. A total of 2,057 bills were introduced for the 2014 legislative year, many of which are "spot" bills. Including carryover bills from last year, there are about 3,100 active bills. Roughly 30 bills are competing for cap and trade auction revenues and how they will be distributed. How the revenues are spent will be a negotiation between the Governor and the Legislature as part of the Budget process.

The Senate Natural Resources & Water Committee and the Senate Environmental Quality Committee held a joint informational hearing on the implementation of SB 4 (Pavley), regarding hydraulic fracturing (aka fracking). SCAQMD staff testified on the Agency's early data findings and the need to validate data by cross checking local and state data against each other.

Will Gonzalez of Gonzalez, Quintana & Hunter, SCAQMD state legislative consultant, also briefed the Committee on key Sacramento issues.

Mr. Gonzalez reported on two bills imposing taxes on fuels. SB 1156 (Steinberg) calls for a tax on fuels paid directly by consumers, and in exchange, fuels would not go under the cap and trade program. The funding generated from the tax would be used to assist low and middle income individuals dealing with the impact of increased fuel costs, through an earned income tax credit. This bill is opposed by the environmental community and transit agencies, among others.

SB 1017 (Evans) establishes an oil severance tax that would be imposed at the well site and would provide funding for education. Both bills will have challenges getting through the legislature.

Finally, Will reported that the Governor and the State Treasurer announced a \$10 million loan loss reserve fund as part of the Property Assessed Clean Energy (PACE)

program, which allows residents to install renewable energy, water or energy efficiency equipment in their homes financed through a lien on their property. This lien becomes included in the property tax bill. In response to federal concerns that federally funded mortgages would take a second position to these liens when a homeowner defaults, the reserve fund will help cover repayments of those federally funded mortgages.

Dr. Parker inquired as to whether SB 1156 was revenue neutral, and Mr. Gonzalez responded in the affirmative. Mayor Mitchell noted that a number of cities have adopted a similar initiative called the HERO program because the PACE program has not yet been implemented.

**Recommend Position on AB 2208 [Attachment 2]**

Guillermo Sanchez, Sr. Public Affairs Manager presented AB 2208 (Allen) which would preempt legal challenges filed by SCAQMD and others, in its attempt to “streamline the judicial process” to facilitate the development of the Southern California International Gateway (SCIG), a proposed near-dock intermodal rail yard project cited at the Port of Los Angeles. Staff recommended an OPPOSE position on the bill.

*The Legislative Committee approved staff’s recommendation to OPPOSE AB 2208.*

*AYES: Burke, Gonzales, Mitchell, Parker*

*NOES: Antonovich, Buscaino*

**AB 1330 (John Pérez) Environmental Justice**

Barbara Baird, Chief Deputy Counsel reported on AB 1330.

Ms. Baird provided an update on the progress of negotiations relating to AB 1330 introduced by Speaker Pérez. The Speaker is intending to better deter serious and serial violators of environmental pollution laws. SCAQMD staff suggests increasing the maximum penalty levels for each of the tiers within the existing penalty structure for serious and serial violators only. Specific maximum penalties are not suggested by SCAQMD staff so that the author’s office and other stakeholders could have input on what would be most appropriate.

Dr. Parker asked whether additional SCAQMD authority to address serious and serial violators should be included within the Agency’s proposal. SCAQMD Executive Officer Dr. Barry Wallerstein responded that staff would prepare additional proposals along those lines and bring them back to the Committee for consideration.

Supervisor Gonzales added that SCAQMD’s proposal should include information on how serious and serial violations of air pollution laws hurt the South Coast region’s ability to achieve attainment of federal air quality requirements.

### **Amendment to Gonzalez, Quintana & Hunter, LLC Contract**

Dr. Wallerstein presented on this item.

The Legislative Committee unanimously approved staff's recommendation to authorize an increase in the Gonzalez, Quintana & Hunter, LLC Contract by an additional \$48,000 to secure the services of David Quintana through the end of the 2014 legislative year.

***[Refer to the April 4, 2014 Governing Board Agenda Item 9 for additional information]***

### **Federal Surface Transportation Law (MAP-21) Reauthorization Language [Attachment 3]**

Marc Carrel, Program Supervisor, presented this item.

Mr. Carrel presented proposed legislative amendment language as well as new proposals to address air quality issues for upcoming legislation to reauthorize the federal surface transportation law (MAP-21), which will be expiring in Sept. 2014. Mr. Carrel clarified that the first five proposals focus on the movement of freight. Proposals six and seven focus on clean passenger rail in anticipation of a possible rail provision in MAP-21. The eighth proposal is in response to a Committee discussion at a prior meeting regarding all federal sources of pollution, and is instead related to the Clean Air Act, not to MAP-21. Mr. Carrel added that the final proposal is more in line with Item #7 of the Committee meeting's agenda.

Supervisor Gonzales emphasized the need to share these proposals with the four transportation agencies within our authority before moving forward. Dr. Wallerstein commented that these proposals have been shared with transportation agencies in the South Coast region, as well as with the Southern California Association of Governments, for review and comment. Staff will seek their input on the proposals and will report back to the Legislative Committee. Supervisor Gonzales requested that the item also be discussed at the Policy Maker level at the transportation agencies.

Dr. Parker inquired as to when the Surface Transportation Board (STB) would be having a public hearing to consider the issues relating to railyards previously discussed by the Committee. Ms. Baird responded that the STB received various filings; however no ruling has been issued and there is no hearing date currently scheduled. In fact, additional deadlines have been established in March and April to allow for additional filings of arguments and evidence by all interested parties, and then for any appropriate responses to those filings, respectively. Dr. Wallerstein commented that the presentation by Mr. Carrel was separate from the issue before the STB.

Mayor Mitchell inquired what is being discussed regarding possible increased federal funding relative to MAP-21 reauthorization. Mr. Carrel responded that the issue of funding is still an open question, with various proposals, including the increase of the gas tax being discussed. Ultimately this issue would be addressed by the Finance Committee in the U.S. Senate and the Ways and Means Committee in the U.S. House. Mayor Mitchell requested that the need for increased federal funding be emphasized on the next SCAQMD trip to Washington, D.C. Councilmember Buscaino echoed Mayor Mitchell's comments, highlighting cities' failing infrastructure. Supervisor Gonzales added that as part of this message, there is a need to identify and focus on improving infrastructure in high growth areas. Councilmember Buscaino inquired if, as part of reauthorization of MAP-21, staff has looked into opportunities with TIFIA funds and TIGER grants. Mr. Carrel responded that staff is currently working on a possible TIGER grant proposal, and has submitted such proposals in previous years; however, the program is largely oversubscribed and SCAQMD has been unable to secure a grant in the past. Supervisor Gonzales mentioned that TIGER grant submittals by other transportation agencies in the region might provide a good partnership opportunity.

**Recommend Position on S. 488 (Stabenow) / H.R. 1027 (Peters) [Attachment 4]**  
Mr. Carrel presented S. 488 (Stabenow) / H.R. 1027 (Peters) Advanced Vehicle Technology Act of 2013 to the Committee.

These bills would create a program, administered by the U.S. Department of Energy (DOE) that provides support for clean vehicle research, development, demonstration and commercialization. Staff recommended that amendments be included that call for reducing criteria pollutant emissions and achieving zero- or near-zero emissions engine technologies, rather than just focusing on achieving greater fuel efficiency.

Thus, staff recommended a position on these bills of: SUPPORT AND RECOMMEND AMENDMENTS

***The Legislative Committee unanimously approved staff's recommendation to SUPPORT THE BILLS AND RECOMMEND AMENDMENTS***  
***AYES: Antonovich, Buscaino, Burke, Gonzales, Mitchell, and Parker***  
***NOES: None.***

#### **Discussion of Enhanced Outreach to Congress**

Lisha B. Smith, Deputy Executive Officer, presented on this item and informed the Committee that the discussion relating to the Federal Surface Transportation Law (Map-21) basically addressed this item and she noted the direction given by the Committee members.

### **Update on Federal Legislative Issues**

Mia O’Connell of the Carmen Group, SCAQMD federal legislative consultant, provided the Committee with updates on key Washington D.C. issues.

Ms. O’Connell reported that the House Appropriation Interior Subcommittee will be holding a hearing on the U.S. EPA budget for FY 2015 this month. It was also reported that there were seven MAP-21 related hearings that occurred in the U.S. Congress recently – in both the House and the Senate. Further, the Senate Environment & Public Works (EPW) Committee plans to mark up its version of MAP-21 in April, without funding details. Ms. O’Connell also stated that the Transportation and Infrastructure Committee in the U.S. House plans to mark up its version of MAP-21 in early summer. Finally, the U.S. Department of Transportation (U.S. DOT) is drafting the Administration’s bill proposal regarding MAP-21 and will submit it to Congress by mid-April.

Ms. O’Connell also reported that SCAQMD staff is working on possible TIGER grant proposals and recently had a call with U.S. DOT staff to discuss concepts and criteria relating to this issue.

Mark Kadesh of Kadesh & Associates, SCAQMD federal legislative consultant, also updated the Committee on key Washington D.C. issues.

Mr. Kadesh reported that Senator Boxer and the Senate EPW Committee staff do not plan to make many major revisions to MAP-21 during the mark-up hearing relating to its reauthorization, however, they do hope to add a Rail title to the bill.

Finally, Mr. Kadesh reported that the Senate recently had an all-night session on climate change. Ultimately, this session showed that there are not sufficient votes to move any federal legislation regarding climate change at this time.

Councilmember Buscaino asked if SCAQMD is playing any role with respect to the President’s Task Force on Climate Change. Mr. Kadesh responded that SCAQMD has not played a formal role. Councilmember Buscaino further inquired about possible involvement by SCAQMD with this task force in the future. Dr. Wallerstein responded that this would be evaluated and that communication with the White House would occur on this issue. He added that SCAQMD has provided technical input regarding the U.S. EPA’s activities on climate change in the past.

### **Report from SCAQMD Home Rule Advisory Group [Attachment 5]**

Please refer to Attachment 5 for written report.

### **Other Business:**

None

**Public Comment Period:**

No public comment.

**Attachments**

1. Attendance Record
2. AB 2208 Bill Analysis and Bill Language
3. Federal Surface Transportation Law (MAP-21) Reauthorization Language
4. S. 488 and H.R. 1028 Bill Analysis and Bill Language
5. SCAQMD Home Rule Advisory Group Report

## ATTACHMENT 1

### ATTENDANCE RECORD –March 14, 2014

#### **DISTRICT BOARD MEMBERS:**

Dr. William A. Burke (teleconference)  
Supervisor Josie Gonzales  
Supervisor Michael Antonovich (teleconference)  
Councilmember Joe Buscaino (teleconference)  
Mayor Judy Mitchell (teleconference)  
Dr. Clark E. Parker, Sr. (teleconference)

#### **STAFF TO COMMITTEE:**

Lisha B. Smith, Deputy Executive Officer  
Derrick Alatorre, Assistant Deputy Executive Officer/Public Advisor  
Guillermo Sanchez, Senior Public Affairs Manager  
Julie Franco, Senior Administrative Secretary

#### **DISTRICT STAFF:**

Barbara Baird, Chief Deputy Counsel  
Elaine Chang, Deputy Executive Officer  
Peter Greenwald, Senior Policy Advisor  
Debra Ashby, Senior Public Information Specialist  
Marc Carrel, Program Supervisor  
Tina Cox, Senior Public Information Specialist  
Philip Crabbe, Community Manager  
Henry Hogo, Assistant Deputy Executive Officer  
Robert Paud, Telecommunications Technician  
Ricardo Rivera, Senior Staff Specialist  
Kim White, Public Affairs Specialist  
Patti Whiting, Staff Specialist

#### **OTHERS PRESENT:**

Mark Abramowitz, Governing Board Member Consultant (Lyou)  
Paul Gonsalves, Gonsalves & Son (teleconference)  
Will Gonzalez, Gonzalez, Quintana & Hunter (teleconference)  
Stewart Harris, Carmen Group (teleconference)  
Gary Hoitsma, Carmen Group (teleconference)  
Mark Kadesh, Kadesh & Associates (teleconference)  
Chris Kierig, Kadesh & Associates (teleconference)  
Rita Loof, RadTech  
Debra Mendelsohn, Governing Board Assistant (Antonovich)  
Peter Okurowski, California Environmental Associates (CEA)  
Mia O'Connell, Carmen Group (teleconference)  
David Rothbart, LACSD  
Andy Silva, Governing Board Assistant (Gonzales)  
Susan Stark, Tesor Consultant  
Tara Tisopulos, Environmental Compliance Solutions (ECS), on behalf of Orange County  
Transportation Authority (OCTA)  
Warren Weinstein, Kadesh & Associates (teleconference)

**ATTACHMENT 2a**

**AB 2208 (Allen)**

**California Environmental Quality Act: Southern California International Gateway**

**Summary:** Preempting legal challenges filed by SCAQMD and others, AB 2208 bill would “streamline the judicial process” to facilitate the development of the Southern California International Gateway (SCIG), a proposed project for the construction of a near-dock intermodal railyard at the Port of Los Angeles.

**Background:** The California Environmental Quality Act (CEQA) is the primary state law requiring public officials to understand and consider the environmental consequences of their decisions before they make them and disclose the information to the public. CEQA requires a lead agency to complete an EIR on a project that might have a significant effect on the environment and find ways to reduce or avoid any significant impact through the adoption of feasible mitigation measures or project alternatives.

In this instance, the project would allow Burlington Northern Santa Fe Railway (BNSF) to construct a near-dock intermodal railyard located approximately four miles from the ports. The project site is located close to environmental justice communities and numerous sensitive receptors, including residences, a homeless veteran’s shelter, a day care center, parks, and numerous schools that are already highly impacted by air pollution from the ports and other activities. The EIR identifies that the project will have a significant impact on air quality, among other impacts. The SCAQMD is concerned that truck and train idling activity will occur in close proximity – as close as 20 feet – from homes and schools, creating a harmful impact to public health.

SCAQMD filed a petition for writ of mandate and complaint for declaratory relief, under CEQA, challenging the decision of the Port and City of Los Angeles to certify the Environmental Impact Report (EIR) in connection with the approval of the SCIG project. The SCAQMD does not take a position in support of or against the project, but instead seeks that the project provide adequate mitigation for air quality impacts, as required under CEQA. In addition to the petition by SCAQMD, six other lawsuits and one motion to intervene were filed from a wide range of groups, including other public agencies, environmental and community groups and business interests: (1) the City of Long Beach; (2) Long Beach Unified School District; (3) Natural Resources Defense Council (NRDC), East Yard Communities For Environmental Justice, Coalition For Clean Air, Century Villages At Cabrillo, Elena Rodriguez, and Evelyn Deloris Knight; (4) Coalition for a Safe Environment (CFASE), Apostolic Faith Center, Community Dreams, and California Kids IAQ; (5) Fast Lane Transportation, Inc.; and (6) California Cartage Company, Inc., Three Rivers Trucking Inc., Los Angeles Harbor Grain Terminal, and San Pedro Forklift, Inc.; and a motion to intervene by the City of Carson.

**Status:** Introduced on February 20, 2014; substantive language pending.

**Specific Provisions:**

“It is the intent of the Legislature to enact legislation that would facilitate the infrastructure development and implementation of the final environmental impact report, described as ADP No. 041027-19, which was prepared for the Southern California International Gateway Project, a proposed project for the construction and installation of various cargo transfer facilities at the Port of Los Angeles.”

**Impacts on SCAQMD’s Mission, Operations or Initiatives:**

AB 2208 would overturn the protections afforded under CEQA and deny SCAQMD, cities, impacted residents, and other stakeholders the opportunity to ensure compliance with existing environmental laws and the opportunity for judicial review.

**Recommended Position:** OPPOSE

# ATTACHMENT 2b

CALIFORNIA LEGISLATURE—2013–14 REGULAR SESSION

**ASSEMBLY BILL**

**No. 2208**

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**Introduced by Assembly Member Allen**

February 20, 2014

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An act relating to environmental quality.

LEGISLATIVE COUNSEL'S DIGEST

AB 2208, as introduced, Allen. California Environmental Quality Act: Southern California International Gateway Project.

The California Environmental Quality Act (CEQA) requires a lead agency to prepare, or cause to be prepared, and certify the completion of, an environmental impact report on a project, as defined, that it proposes to carry out or approve that may have a significant effect on the environment, as defined, or to adopt a negative declaration if it finds that the project will not have that effect.

This bill would declare the intent of the Legislature to enact legislation that would facilitate the infrastructure development and implementation of the final environmental impact report, as described, which was prepared for the Southern California International Gateway Project, a proposed project for the construction and installation of various cargo handling and transfer facilities at the Port of Los Angeles.

Vote: majority. Appropriation: no. Fiscal committee: no.  
State-mandated local program: no.

*The people of the State of California do enact as follows:*

- 1 SECTION 1. It is the intent of the Legislature to enact
- 2 legislation that would facilitate the infrastructure development and
- 3 implementation of the final environmental impact report, described

- 1 as ADP No. 041027-19, which was prepared for the Southern
- 2 California International Gateway Project, a proposed project for
- 3 the construction and installation of various cargo transfer facilities
- 4 at the Port of Los Angeles.

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## ATTACHMENT 3

### SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT PROPOSALS FOR FEDERAL TRANSPORTATION LEGISLATION:

#### ADVANCED TECHNOLOGIES TO REDUCE AIR POLLUTION FROM FREIGHT TRANSPORT TO SUPPORT ATTAINMENT OF FEDERAL AIR QUALITY STANDARDS

##### **Proposal 1. Increased Federal Funding Share for Infrastructure Enabling or Incentivizing Advanced Freight Technologies**

*Amend MAP-21 Section 1116 as follows (proposed amendments are shown in underline/strike-out):*

##### SEC. 1116. PRIORITIZATION OF PROJECTS TO IMPROVE FREIGHT MOVEMENT.

- (a) **IN GENERAL.**—Notwithstanding section 120 of title 23, United States Code, the Secretary may increase the Federal share payable for any project to 95 percent for projects on the Interstate System and 90 percent for any other project if the Secretary certifies that the project meets the requirements of this section.
- (b) **INCREASED FUNDING.**—To be eligible for the increased Federal funding share under this section, a project shall—
  - (1) demonstrate the improvement made by the project to the efficient movement of freight, including making progress towards meeting performance targets for freight movement established under section 150(d) of title 23, United States Code; and
  - (2) be identified in a State freight plan developed pursuant to section 1118.
- (c) **ELIGIBLE PROJECTS.**—Eligible projects to improve the movement of freight under this section may include, but are not limited to—
  - (1) construction, reconstruction, rehabilitation, and operational improvements directly relating to improving freight movement;
  - (2) intelligent transportation systems and other technology to improve the flow of freight;
  - ~~(3) efforts to reduce the environmental impacts of freight movement on the primary freight network;~~
  - (4) railway-highway grade separation;
  - (5) geometric improvements to interchanges and ramps.
  - (6) truck-only lanes;
  - (7) climbing and runaway truck lanes;
  - (8) truck parking facilities eligible for funding under section 1401;
  - (9) real-time traffic, truck parking, roadway condition, and multimodal transportation information systems;

- (10) improvements to freight intermodal connectors; and
  - (11) improvements to truck bottlenecks.
- (d) DEFINITION OF "EFFORTS TO REDUCE THE ENVIRONMENTAL IMPACTS OF FREIGHT MOVEMENT."—As used in Section 1116 (c)(3), "efforts to reduce the environmental impacts of freight movement" shall include, but not be limited to,—
- (1) transportation infrastructure that enables or incentivizes utilization of Advanced Freight Transport Technologies (as defined in subsection (e)), including, but not limited to, construction of —
    - (A) infrastructure that is dedicated for use by Advanced Freight Transport Technologies, such as highway lanes, rail lines, or lanes providing expedited access to freight facilities;
    - (B) infrastructure that will be operated in a manner to create incentives for use by Advanced Freight Transport Technologies, such as through toll or access fee discounts for highways or freight facilities; and
    - (C) fueling or charging infrastructure, or wayside power, to provide energy for Advanced Freight Transport Technologies; and
  - (2) actions to reduce public health impacts in communities near freight facilities caused by emissions from freight movement, including, but not limited to—
    - (A) deployment of advanced freight technologies or other technologies and strategies to reduce emissions near such communities beyond the benefits of adopted regulatory standards; and
    - (B) establishment of sufficient distance between diesel-powered freight operations and communities, schools, workplaces and other sensitive receptors to prevent significant health impacts.
- (e) DEFINITION OF ADVANCED FREIGHT TRANSPORT TECHNOLOGY. — Advanced Freight Transport Technologies shall include the following:
- (1) TRUCKS. — Heavy-duty trucks powered by —
    - (A) fuel cells;
    - (B) electricity;
    - (C) hybrid-electric technologies with significant zero-emission range, which may use range extenders powered by diesel, natural gas, fuel cells or other power sources; "significant zero-emission range" shall be defined by the Administrator of the EPA so as to encompass a substantial portion of typical daily service in nonattainment areas; or
    - (D) any other technology that emits nitrogen oxides and fine particulates (PM2.5) at rates at least 90% lower than the most stringent applicable emission standards adopted by EPA, or which the Administrator of the EPA determines creates sufficiently low emissions of such pollutants to meet

the air quality attainment needs of all areas designated nonattainment under the Clean Air Act (including areas classified as Extreme Ozone nonattainment.)

- (2) LOCOMOTIVES. — Freight locomotives powered by –
  - (A) natural gas with advanced emission controls achieving emission levels substantially lower than EPA Tier 4 locomotive standards (as determined by the Administrator of the EPA);
  - (B) fuel cells;
  - (C) electricity;
  - (D) hybrid-electric technologies with significant zero-emission range, which may use range extenders powered by diesel, natural gas, fuel cells or other power sources; “significant zero-emission range” shall be determined by the Administrator of the EPA so as to encompass a substantial portion of typical service in nonattainment areas; or
  - (E) any other technology satisfying the criteria in paragraph (e)(1)(D) above.
- (3) CARGO HANDLING. — Cargo handling equipment powered by –
  - (A) electricity;
  - (B) fuel cells;
  - (A) hybrid-electric technologies with significant zero-emission range, which may use range extenders powered by diesel, natural gas, fuel cells or other power sources; “significant zero-emission range” shall be determined by the Administrator of the EPA so as to encompass a substantial portion of typical daily service; or
  - (C) any other technology satisfying the criteria in paragraph (e)(1)(D) above.

**Proposal 2. Grant Program for Development, Demonstration and Deployment of Advanced Freight Transport Technologies (New)**

- (a) GRANT PROGRAM AUTHORIZATION. – There shall be authorized \$50 million per year for five years to fund eligible projects and programs to develop and demonstrate Advanced Freight Transport Technologies (as defined in Proposal 1), and provide incentives for commercialization and deployment in major freight corridors to support broad markets for advanced technologies.
- (b) ELIGIBLE PROJECTS AND PROGRAMS.— Projects and programs eligible for funding under this section shall be undertaken by a state or local government in partnership with academic or industry participants, and shall be designed to –
  - (1) develop, improve, or expand applications for Advanced Freight Transport Technologies;

- (2) implement prototype demonstrations, or larger scale demonstrations, of Advanced Freight Transport Technologies;
  - (3) assist in overcoming obstacles to commercialization of Advanced Freight Transport Technologies; or
  - (4) provide incentives for commercialization and deployment of Advanced Freight Transport Technologies in major freight corridors. Incentives under this paragraph may include, but are not limited to, subsidies or financing of the incremental capital cost of Advanced Freight Transport Technologies; discounted tolls for Advanced Technology vehicles; dedicated lanes to expedite access to ports and railyards by Advanced Technology vehicles; and public recognition programs for companies utilizing Advanced Technologies.
- (c) **PROCESS AND FUNDING PRIORITIES** – The Secretary shall establish a competitive grant program, and shall prioritize funding for projects or programs that involve –
- (1) technology development and demonstration by entities with a history of successful technology advancement, and expertise regarding emission reduction needs in an area substantially impacted by freight emissions;
  - (2) technologies that have potential to provide economic and other co-benefits, including ability to move larger volumes of goods with less energy and emissions, fuel and maintenance cost reductions, improved energy cost certainty, job creation in the United States, and reduction in emissions impacting climate;
  - (3) a variety of technologies in order to support choice for freight carriers;
  - (4) technology deployment in major freight corridors located in areas of the nation that are designated nonattainment under the Clean Air Act and are substantially impacted by freight emissions, with priority for initial deployment in communities that are located near freight facilities and most significantly impacted by local diesel emissions; and
  - (5) leveraging of resources and funds through partnerships with state or local government, industry, academia, nonprofit or foundation, or other sources; and
- (d) **MINIMUM FUNDING MATCH.**--Eligible projects and programs shall include at least a 20 percent funding match from non-federal sources.
- (e) **FEDERAL AGENCY COORDINATION.** – The Secretary shall seek to coordinate funding under this section with technology development, demonstration and deployment funding by other federal agencies, to maximize effective and efficient use of resources.

**Proposal 3. Grant Program for Fueling and Charging Infrastructure (New)**

- (a) GRANT PROGRAM AUTHORIZATION. – There shall be authorized \$50 million each year for five years for the Secretary of Transportation to provide grants for projects or programs that fund installation of fueling and charging infrastructure for trucks, locomotives and cargo handling equipment employing Advanced Freight Transport Technologies (as defined in Proposal 1).
- (b) ELIGIBLE PROJECTS AND PROGRAMS. – Projects and programs eligible for funding under this section shall be undertaken by a state or local government in partnership with industry participants.
- (c) PROCESS AND FUNDING PRIORITIES – The Secretary shall establish a competitive grant program, and shall prioritize funding for projects or programs that involve –
  - (1) deployment along major freight corridors located in areas of the nation that are designated nonattainment under the Clean Air Act and are substantially impacted by freight emissions, with priority for initial deployment in communities that are located near freight facilities and most significantly impacted by local diesel emissions;
  - (2) fueling and charging infrastructure for a variety of technologies in order to support choice for freight carriers; and
  - (3) leveraging of resources and funds through partnerships with state or local government, industry or other sources.
- (d) MINIMUM FUNDING MATCH. -- Eligible projects and programs shall include at least a 20 percent funding match from non-federal sources.
- (e) FEDERAL AGENCY COORDINATION. – The Secretary shall seek to coordinate funding under this section with fueling and charging infrastructure funding by other federal agencies, to maximize effective and efficient use of resources.

**Proposal 4. Incentives in Fuel Economy Standards (New)**

- (a) INCENTIVES. – The Secretary shall, after consulting with the Administrator of the EPA, ensure that regulations adopted after (date of enactment) pertaining to fuel efficiency for heavy duty trucks are designed to create incentives for deployment of increasing numbers of trucks employing Advanced Freight Transport Technologies (as defined in Proposal 1). Such incentives may take the form of additional credit for trucks employing Advanced Freight Transport Technologies, or any other form of incentive that the Secretary determines is likely to significantly incentivize development and commercialization of such technologies in time to support attainment of ozone air quality standards under the Clean Air Act.
- (b) FUEL AND TECHNOLOGY NEUTRALITY. – Incentive programs under this section shall be designed to be fuel-neutral and technology-neutral.

**Proposal 5. Federal Fleets (New)**

- (a) The Secretary shall make information available to procurement programs of federal agencies regarding the potential to demonstrate Advanced Freight Transport Technologies funded under this act.
- (b) No later than 18 months after (date of enactment), the *(insert Executive Branch office)* shall establish and publish policies for federal agencies to acquire Advanced Freight Transport Technologies to the maximum extent operationally and financially feasible.

**Proposal 6. COMMUTER RAIL TIER 4 LOCOMOTIVE GRANT PROGRAM (New)**

- (a) GRANT PROGRAM AUTHORIZATION. – There shall be authorized \$80 million per year for five years for a competitive grant program to assist commuter rail agencies upgrade their fleet to the least-polluting technology by:
  - (1) Replacing existing locomotives that meet but do not exceed the EPA Tier Zero, Tier 1 or Tier 2 emission standards, with locomotives that meet the EPA’s Tier 4 emission standards, or
  - (2) Retrofitting the engines of existing locomotives that meet but do not exceed the EPA Tier Zero, Tier 1 or Tier 2 emission standards, to engines that meet EPA’s Tier 4 emission standards
- (b) ELIGIBILITY – All commuter rail agencies which have begun, as of July 1, 2014, to replace Tier zero, Tier 1 or Tier 2 locomotives with Tier 4 locomotives, and which serve an area designated as nonattainment for PM2.5 and nonattainment for ozone under the Clean Air Act.
- (c) LOCAL SHARE – The local share of 30% shall be calculated on a fleet-wide basis and not a locomotive by locomotive basis. A commuter rail agency shall be deemed to have met the 30% local match if it provides funding for at least 30% of the cost to replace at least 50% of its Tier 0, Tier 1 and Tier 2 locomotives in its fleet as of July 1, 2013, even if those funds have already been expended on Tier 4 locomotives before the enactment of this Act.
- (d) AVAILABILITY OF FUNDS – Any amount made available under this section—
  - (1) Shall remain available to a project for 3 years after the fiscal year for which the amount is made available or appropriated; and
  - (2) That remains unobligated at the end of the period described in paragraph (1) shall be added to the amount made available in the following year.

**Proposal 7. Grant Program for Development, Demonstration and Deployment of Advanced Passenger Locomotive Technology (New)**

- (a) GRANT PROGRAM AUTHORIZATION. – There shall be authorized \$40 million per year for five years to fund eligible projects and programs to develop and demonstrate advanced passenger locomotive technologies.

- (b) ELIGIBILITY.—
  - (1) Applicants for grants under this section must be commuter rail agency, although they may partner with academic participants, cities, counties, MPOs, state or local air quality agencies, and/or industry participants.
  - (2) Projects and programs eligible for funding under this section shall be designed to —
    - (A) develop, improve, or expand applications for advanced passenger locomotive technologies; or
    - (B) implement prototype demonstrations, or larger scale demonstrations, of advanced passenger locomotive technologies.
- (c) DEFINITION OF ADVANCED PASSENGER LOCOMOTIVE TECHNOLOGIES. -- Advanced Passenger Locomotive Technologies shall mean passenger locomotives powered by —
  - (A) natural gas with advanced emission controls achieving emission levels substantially lower than EPA Tier 4 locomotive standards (as determined by the Administrator of the EPA);
  - (B) fuel cells;
  - (C) an electric battery tender car;
  - (D) hybrid-electric technologies with significant zero-emission range, which may use range extenders powered by diesel, natural gas, fuel cells or other power sources; “significant zero-emission range” shall be determined by the Administrator of the EPA so as to encompass a substantial portion of typical service in nonattainment areas; or
  - (E) refueling and/or recharging infrastructure for locomotives powered by fuels mentioned in subparagraphs (A), (B), (C), (D), or (E).
- (d) MINIMUM FUNDING MATCH.--Eligible projects and programs shall include at least a 20 percent funding match from non-federal sources.

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**Proposal 8. Federal Regulations to Implement State Implementation Plans Under the Clean Air Act (New)**

*The following proposal is in response to a request by Chairman Burke at the February Legislative Committee meeting for draft legislation authorizing AQMD to regulate “federal” sources. This proposal would require EPA to adopt rules to implement the State Implementation Plan (SIP) in circumstances where state and local authority is preempted. Like the above proposals for surface transportation legislation, this proposal would potentially affect equipment involved in freight transport, i.e. interstate trucks and locomotives (in addition to ships and aircraft). This proposal, however, is drafted to amend the Clean Air Act, because the proposal would implement SIPs under that act. It would need to be determined whether this proposal is sufficiently germane to the surface transportation bill to be included in that legislation.*

*Proposal: Add new Subdivision 110(q) to the Clean Air Act, to read as follows:*

- (a) FEDERAL ATTAINMENT MEASURES. —

- (1) The Administrator shall promulgate regulations applicable to sources within the regulatory authority of the Environmental Protection Agency which shall be sufficient, in conjunction with measures contained in the applicable state implementation plan, to attain all national primary ambient air quality standards throughout the United States by the applicable attainment dates.
- (2) The duty imposed by this subdivision applies if the Administrator concurs with a state's finding in a state implementation plan revision that the state implementation plan includes all feasible measures that are not preempted by federal law, yet one or more nonattainment areas is unable to attain a national ambient air quality standard by the applicable date. The Administrator shall concur with, or disapprove, a state's finding within the time required to act on the implementation plan revision.
- (3) The regulations required by this subdivision may, in the Administrator's discretion, be applicable only to one or more specified states, regions, or nonattainment areas.
- (4) In implementing this subdivision, the Administrator may adopt regulations applicable to motor vehicles and engines, and to non-road vehicles and engines, which are no longer new.

## **ATTACHMENT 4a**

### **S. 488 (Stabenow)/H.R. 1027 (Peters) Advanced Vehicle Technology Act**

**Summary:** This bill would create a program, administered by the U.S. Department of Energy (DOE), that provides support for clean vehicle research, development, demonstration and commercialization.

**Background:** The Advanced Vehicle Technology Act (S. 488/H.R. 1027) would authorize appropriations to the Secretary of Energy for research, development, demonstration and commercialization of advanced technology vehicles, including electric, hybrid, hydrogen and natural gas vehicles.

The Senate bill, S. 488, is cosponsored by the two Michigan Senators, Debbie Stabenow and Carl Levin. The House version, H.R. 1027, is sponsored by Rep. Gary Peters, also of Michigan, and has 16 cosponsors. Of those, four are from Michigan, and four are from California (Garamendi, Ruiz, Chu, Brownley).

The author said the bill will help “manufacturers and suppliers research and develop technologies to make more fuel-efficient vehicles, reducing costs at the pump and reducing our dependence on foreign oil.” Since the sponsors of these bills are from Michigan, this is perceived as an effort to assist Michigan carmakers in moving to more advanced technologies. However the bill is not Michigan specific and could benefit not only the Detroit carmakers, but also vehicle manufacturers based in California (e.g., Toyota, Honda, Tesla, etc.).

In the 112th Congress (2011-12), a similar Advanced Vehicle Technology Act passed the House of Representatives on a bipartisan 312-114 vote, and passed the Senate Energy and Natural Resources Committee with broad bipartisan support. However, it never received a vote on the Senate Floor.

**Status:** On March 7, 2013, S.488 was read twice and referred to the Senate Committee on Energy and Natural Resources. H.R.1027 was referred on March 21, 2013 to the House Committee on Science, Space, and Technology’s Subcommittee on Energy.

#### **Specific Provisions:**

This legislation direct the Secretary of the DOE to conduct a program of basic and applied research, development, demonstration, and commercial application activities on materials, technologies, and processes with the potential to

substantially reduce or eliminate petroleum use and emissions from the nation's passenger and commercial vehicles. The bill requires the program to include activities in numerous areas including the following:

- hybridization or full electrification of vehicle systems;
- batteries, ultra-capacitors, and other energy storage devices;
- engine efficiency and combustion optimization;
- hydrogen vehicle technologies;
- compressed natural gas and liquefied petroleum gas vehicle technologies;
- innovative propulsion systems;
- hydraulic hybrid technologies;
- engine compatibility with and optimization for a variety of transportation fuels;
- refueling and charging infrastructure for alternative fueled and electric or plug-in electric hybrid vehicles;
- sensing, communications, and actuation technologies for vehicle, electrical grid, and infrastructure; and
- retrofitting advanced vehicle technologies to existing vehicles.

These bills also reauthorize the U.S. DOE'S Vehicle Technologies Program, through which DOE partners with manufacturers of light duty auto, and medium and heavy duty commercial trucks and suppliers to conduct research to develop the next generation of fuel efficient cars and trucks with a focus on (1) hydrogen vehicle technology; (2) multiple battery chemistries and novel energy storage devices; (3) communication, connectivity, and power flow amount vehicles, infrastructure, and the electrical grid; and (4) lightweight vehicles and materials.

The bill also directs DOE to partner with public and private sector entities to conduct research programs on a wide range of passenger vehicle and medium and heavy duty commercial vehicle technologies. In particular, DOE is directed to continue its existing investment into multiple transformational technologies, such as hydrogen and batteries. However, the bill gives DOE the resources necessary to expand its focus into near term developments that could result in significant fuel savings for the national fleet if widely deployed. DOE must also inform other agencies of the potential for demonstrating technologies funded by this Act; and support and utilize state and local government initiatives in advanced vehicle technology development.

When awarding cost-sharing grants, the bill requires DOE to prioritize technologies which will provide the greatest aggregate fuel savings and the greatest number of American jobs.

This bill also requires DOE to implement a research, development, engineering, demonstration, and commercial application program for advanced vehicle manufacturing technologies and practices, including such things as innovative processes to: increase the production rate and decrease the cost of advanced battery manufacturing; design and manufacture purpose-built hydrogen and fuel cell vehicles and components; and improve the calendar life and cycle life of advanced batteries.

DOE would then be required to report to Congress annually through 2017 on technologies developed through this Act that have been successfully adopted for commercial application.

The bill also has DOE establish a competitive grant program to demonstrate the integration of multiple advanced technologies on Class 8 truck and trailer platforms with a goal of improving overall freight efficiency by 50%; (2) develop standard testing procedures and technologies for evaluating the performance of advanced heavy vehicle technologies ; (3) evaluate heavy vehicle performance using work performance-based metrics other than miles per gallon; and (4) undertake a pilot program of research, development, demonstration, and commercial applications of technologies to improve total machine or system efficiency for nonroad mobile equipment and seek opportunities to transfer relevant research findings and technologies between the nonroad and on-highway equipment and vehicle sectors.

**Impacts on AQMD's Mission, Operations or Initiatives:** The Advanced Vehicle Technology Act seeks to improve the fuel efficiency of the U.S. fleet; reduce the nation's dependence on imported oil by focusing on a wide variety of other fuel sources; support domestic research and development, demonstration, commercialization, and manufacturing of advanced vehicle technologies; and allow for greater consumer choice of technologies and fuels.

This bill also places a new focus on research and development programs for medium and heavy duty trucks, and directs the DOE to appoint a full time Director to coordinate existing efforts between government and industry partners.

This bill would further a number of significant efforts supported by SCAQMD, namely efforts to provide greater federal funding and involvement in the development process (from research through commercialization and deployment) of light duty, medium-duty and heavy duty vehicles. In addition, DOE is directed to seek opportunities to leverage resources and support initiatives of State and

local governments in developing and promoting advanced vehicle technologies, manufacturing, and infrastructure. This could lead to greater federal support for SCAQMD programs and initiatives to further the development of zero and near-zero emission medium and heavy-duty vehicles.

This legislation does not define a funding source, nor an amount for the grant programs, however earlier versions called for \$200 million.

There is no mention in this bill of reducing emissions from vehicles, just achieving greater fuel efficiency. Amendments should be included that call for reducing criteria pollutant emissions and achieving zero- or near-zero emissions engine technologies.

**Recommended Position: SUPPORT AND RECOMMEND AMENDMENTS**

113TH CONGRESS  
1ST SESSION

# S. 488

To provide for a program of research, development, demonstration, and commercial application in vehicle technologies at the Department of Energy.

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IN THE SENATE OF THE UNITED STATES

MARCH 7, 2013

Ms. STABENOW introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

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## A BILL

To provide for a program of research, development, demonstration, and commercial application in vehicle technologies at the Department of Energy.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

4 (a) **SHORT TITLE.**—This Act may be cited as the  
5 “Advanced Vehicle Technology Act of 2013”.

6 (b) **TABLE OF CONTENTS.**—The table of contents of  
7 this Act is as follows:

- Sec. 1. Short title; table of contents.
- Sec. 2. Objectives.
- Sec. 3. Definitions.
- Sec. 4. Coordination and nonduplication.

## TITLE I—VEHICLE RESEARCH AND DEVELOPMENT

Sec. 101. Program.

Sec. 102. Sensing and communications technologies.

Sec. 103. Manufacturing.

Sec. 104. Reporting.

TITLE II—MEDIUM AND HEAVY DUTY COMMERCIAL AND  
TRANSIT VEHICLES

Sec. 201. Program.

Sec. 202. Class 8 truck and trailer systems demonstration.

Sec. 203. Technology testing and metrics.

Sec. 204. Nonroad systems pilot program.

Sec. 205. Repeal of existing authorities.

**1 SEC. 2. OBJECTIVES.**

2 The objectives of this Act are—

3 (1) to reform and reorient the vehicle tech-  
4 nologies programs of the Department;

5 (2) to establish a clear and consistent authority  
6 for vehicle technologies programs of the Department;

7 (3) to develop United States technologies and  
8 practices that—

9 (A) improve the fuel efficiency and emis-  
10 sions of all vehicles produced in the United  
11 States; and

12 (B) reduce vehicle reliance on petroleum-  
13 based fuels;

14 (4) to support domestic research, development,  
15 engineering, demonstration, and commercial applica-  
16 tion and manufacturing of advanced vehicles, en-  
17 gines, and components;

1           (5) to enable vehicles to move larger volumes of  
2 goods and more passengers with less energy and  
3 emissions;

4           (6) to develop cost-effective advanced tech-  
5 nologies for wide-scale utilization throughout the  
6 passenger, commercial, government, and transit ve-  
7 hicle sectors;

8           (7) to allow for greater consumer choice of vehi-  
9 cle technologies and fuels;

10          (8) to shorten technology development and inte-  
11 gration cycles in the vehicle industry;

12          (9) to ensure a proper balance and diversity of  
13 Federal investment in vehicle technologies and  
14 among vehicle classes; and

15          (10) to strengthen partnerships between Fed-  
16 eral and State governmental agencies and the pri-  
17 vate and academic sectors.

18 **SEC. 3. DEFINITIONS.**

19 In this Act:

20          (1) DEPARTMENT.—The term “Department”  
21 means the Department of Energy.

22          (2) SECRETARY.—The term “Secretary” means  
23 the Secretary of Energy.

1 **SEC. 4. COORDINATION AND NONDUPLICATION.**

2 (a) COORDINATION.—The Secretary shall ensure that  
3 activities authorized by this Act do not duplicate activities  
4 of other programs within the Department or other rel-  
5 evant agencies.

6 (b) COST-SHARING REQUIREMENT.—The activities  
7 carried out under this Act shall be subject to the cost-  
8 sharing requirements of section 988 of the Energy Policy  
9 Act of 2005 (42 U.S.C. 16352).

10 **TITLE I—VEHICLE RESEARCH**  
11 **AND DEVELOPMENT**

12 **SEC. 101. PROGRAM.**

13 (a) ACTIVITIES.—The Secretary shall conduct a pro-  
14 gram of basic and applied research, development, engi-  
15 neering, demonstration, and commercial application activi-  
16 ties on materials, technologies, and processes with the po-  
17 tential to substantially reduce or eliminate petroleum use  
18 and the emissions of the Nation’s passenger and commer-  
19 cial vehicles, including activities in the areas of—

20 (1) hybridization or full electrification of vehicle  
21 systems;

22 (2) batteries, ultracapacitors, and other energy  
23 storage devices;

24 (3) power electronics;

25 (4) vehicle, component, and subsystem manu-  
26 facturing technologies and processes;

- 1 (5) engine efficiency and combustion optimiza-
- 2 tion;
- 3 (6) waste heat recovery;
- 4 (7) transmission and drivetrains;
- 5 (8) hydrogen vehicle technologies, including fuel
- 6 cells and internal combustion engines, and hydrogen
- 7 infrastructure;
- 8 (9) compressed natural gas and liquefied petro-
- 9 leum gas vehicle technologies;
- 10 (10) aerodynamics, rolling resistance, and ac-
- 11 cessory power loads of vehicles and associated equip-
- 12 ment;
- 13 (11) vehicle weight reduction, including
- 14 lightweighting materials;
- 15 (12) friction and wear reduction;
- 16 (13) engine and component durability;
- 17 (14) innovative propulsion systems;
- 18 (15) advanced boosting systems;
- 19 (16) hydraulic hybrid technologies;
- 20 (17) engine compatibility with and optimization
- 21 for a variety of transportation fuels including nat-
- 22 ural gas and other liquid and gaseous fuels;
- 23 (18) predictive engineering, modeling, and sim-
- 24 ulation of vehicle and transportation systems;

1           (19) refueling and charging infrastructure for  
2 alternative fueled and electric or plug-in electric hy-  
3 brid vehicles, including the unique challenges facing  
4 rural areas;

5           (20) gaseous fuels storage systems and system  
6 integration and optimization;

7           (21) sensing, communications, and actuation  
8 technologies for vehicle, electrical grid, and infra-  
9 structure;

10          (22) efficient use, substitution, and recycling of  
11 potentially critical materials in vehicles, including  
12 rare earth elements and precious metals, at risk of  
13 supply disruption;

14          (23) aftertreatment technologies;

15          (24) thermal management of battery systems;

16          (25) retrofitting advanced vehicle technologies  
17 to existing vehicles;

18          (26) development of common standards, speci-  
19 fications, and architectures for both transportation  
20 and stationary battery applications;

21          (27) advanced internal combustion engines; and

22          (28) other research areas as determined by the  
23 Secretary.

24          (b) TRANSFORMATIONAL TECHNOLOGY.—The Sec-  
25 retary shall ensure that the Department continues to sup-

1 port research, development, engineering, demonstration,  
2 and commercial application activities and maintains com-  
3 petency in mid- to long-term transformational vehicle tech-  
4 nologies with potential to achieve deep reductions in petro-  
5 leum use and emissions, including activities in the areas  
6 of—

7           (1) hydrogen vehicle technologies, including fuel  
8           cells, internal combustion engines, hydrogen storage,  
9           infrastructure, and activities in hydrogen technology  
10          validation and safety codes and standards;

11          (2) multiple battery chemistries and novel en-  
12          ergy storage devices, including nonchemical bat-  
13          teries, ultracapacitors and electromechanical storage  
14          technologies such as hydraulics, flywheels, and com-  
15          pressed air storage;

16          (3) communication, connectivity, and power  
17          flow among vehicles, infrastructure, and the elec-  
18          trical grid; and

19          (4) other innovative technologies research and  
20          development, as determined by the Secretary.

21          (c) INDUSTRY PARTICIPATION.—To the maximum  
22          extent practicable, activities under this Act shall be carried  
23          out in partnership or collaboration with automotive manu-  
24          facturers, heavy commercial, vocational, and transit vehi-  
25          cle manufacturers, qualified plug-in electric vehicle manu-

1 facturers, compressed natural gas and liquefied petroleum  
2 gas vehicle manufacturers, vehicle and engine equipment  
3 and component manufacturers, manufacturing equipment  
4 manufacturers, advanced vehicle service providers, fuel  
5 producers and energy suppliers, electric utilities, univer-  
6 sities, national laboratories, and independent research lab-  
7 oratories. In carrying out this Act the Secretary shall—

8           (1) determine whether a wide range of compa-  
9           nies that manufacture or assemble vehicles or com-  
10           ponents in the United States are represented in on-  
11           going public private partnership activities, including  
12           firms that have not traditionally participated in fed-  
13           erally sponsored research and development activities,  
14           and where possible, partner with such firms that  
15           conduct significant and relevant research and devel-  
16           opment activities in the United States;

17           (2) leverage the capabilities and resources of,  
18           and formalize partnerships with, industry-led stake-  
19           holder organizations, nonprofit organizations, indus-  
20           try consortia, and trade associations with expertise  
21           in the research and development of, and education  
22           and outreach activities in, advanced automotive and  
23           commercial vehicle technologies;

1           (3) develop more efficient processes for trans-  
2           ferring research findings and technologies to indus-  
3           try;

4           (4) give consideration to conversion of existing  
5           or former vehicle technology development or manu-  
6           facturing facilities for the purposes of this Act;

7           (5) establish and support public-private part-  
8           nerships, dedicated to overcoming barriers in com-  
9           mercial application of transformational vehicle tech-  
10          nologies, that utilize such industry-led technology de-  
11          velopment facilities of entities with demonstrated ex-  
12          pertise in successfully designing and engineering  
13          pre-commercial generations of such transformational  
14          technology; and

15          (6) promote efforts to ensure that technology  
16          research, development, engineering, and commercial  
17          application activities funded under this Act are car-  
18          ried out in the United States.

19          (d) INTERAGENCY AND INTRAAGENCY COORDINA-  
20          TION.—To the maximum extent practicable, the Secretary  
21          shall coordinate research, development, demonstration,  
22          and commercial application activities among—

23                 (1) relevant programs within the Department,  
24                 including—

1 (A) the Office of Energy Efficiency and  
2 Renewable Energy;

3 (B) the Office of Science;

4 (C) the Office of Electricity Delivery and  
5 Energy Reliability;

6 (D) the Office of Fossil Energy;

7 (E) the Advanced Research Projects Agen-  
8 cy—Energy; and

9 (F) other offices as determined by the Sec-  
10 retary; and

11 (2) relevant technology research and develop-  
12 ment programs within the Department of Transpor-  
13 tation and other Federal agencies, as determined by  
14 the Secretary.

15 (e) FEDERAL DEMONSTRATION OF TECH-  
16 NOLOGIES.—The Secretary shall make information avail-  
17 able to procurement programs of Federal agencies regard-  
18 ing the potential to demonstrate technologies resulting  
19 from activities funded through programs under this Act.

20 (f) INTERGOVERNMENTAL COORDINATION.—The  
21 Secretary shall seek opportunities to leverage resources  
22 and support initiatives of State and local governments in  
23 developing and promoting advanced vehicle technologies,  
24 manufacturing, and infrastructure.

1 (g) CRITERIA.—When awarding cost-shared grants  
2 under this program, the Secretary shall give priority to  
3 those technologies (either individually or as part of a sys-  
4 tem) that—

5 (1) provide the greatest aggregate fuel savings  
6 based on the reasonable projected sales volumes of  
7 the technology; and

8 (2) provide the greatest increase in United  
9 States employment.

10 **SEC. 102. SENSING AND COMMUNICATIONS TECH-**  
11 **NOLOGIES.**

12 (a) IN GENERAL.—The Secretary, in coordination  
13 with the Secretary of Transportation and the relevant re-  
14 search programs of other Federal agencies, shall conduct  
15 research, development, engineering, and demonstration ac-  
16 tivities on connectivity of vehicle and transportation sys-  
17 tems, including on sensing, computation, communication,  
18 and actuation technologies that allow for reduced fuel use,  
19 optimized traffic flow, and vehicle electrification, including  
20 technologies for—

21 (1) onboard vehicle, engine, and component  
22 sensing and actuation;

23 (2) vehicle-to-vehicle sensing and communica-  
24 tion;

1           (3) vehicle-to-infrastructure sensing and com-  
2           munication; and

3           (4) vehicle integration with the electrical grid,  
4           including communications to provide grid services.

5           (b) COORDINATION.—The activities carried out under  
6 this section shall supplement (and not supplant) activities  
7 under the intelligent transportation system research pro-  
8 gram of the Department of Transportation.

9   **SEC. 103. MANUFACTURING.**

10          The Secretary shall carry out a research, develop-  
11 ment, engineering, demonstration, and commercial appli-  
12 cation program of advanced vehicle manufacturing tech-  
13 nologies and practices, including innovative processes to—

14           (1) increase the production rate and decrease  
15           the cost of advanced battery manufacturing;

16           (2) vary the capability of individual manufac-  
17 turing facilities to accommodate different battery  
18 chemistries and configurations;

19           (3) reduce waste streams, emissions, and en-  
20 ergy-intensity of vehicle, engine, advanced battery  
21 and component manufacturing processes;

22           (4) recycle and remanufacture used batteries  
23 and other vehicle components for reuse in vehicles or  
24 stationary applications;

- 1           (5) produce cost-effective lightweight materials  
2           such as advanced metal alloys, polymeric composites,  
3           and carbon fiber;  
4           (6) produce lightweight high pressure storage  
5           systems for gaseous fuels;  
6           (7) design and manufacture purpose-built hy-  
7           drogen and fuel cell vehicles and components;  
8           (8) improve the calendar life and cycle life of  
9           advanced batteries; and  
10          (9) produce permanent magnets for advanced  
11          vehicles.

12 **SEC. 104. REPORTING.**

13          (a) **TECHNOLOGIES DEVELOPED.**—Not later than 18  
14 months after the date of enactment of this Act and annu-  
15 ally thereafter through 2017, the Secretary of Energy  
16 shall transmit to Congress a report regarding the tech-  
17 nologies developed as a result of the activities authorized  
18 by this title, with a particular emphasis on whether the  
19 technologies were successfully adopted for commercial ap-  
20 plications, and if so, whether products relying on those  
21 technologies are manufactured in the United States.

22          (b) **ADDITIONAL MATTERS.**—At the end of each fis-  
23 cal year through 2017 the Secretary shall submit to the  
24 relevant Congressional committees of jurisdiction an an-  
25 nual report describing activities undertaken in the pre-

1 vious year under this title, active industry participants, ef-  
2 forts to recruit new participants committed to design, en-  
3 gineering, and manufacturing of advanced vehicle tech-  
4 nologies in the United States, progress of the program in  
5 meeting goals and timelines, and a strategic plan for fund-  
6 ing of activities across agencies.

7 **TITLE II—MEDIUM AND HEAVY**  
8 **DUTY COMMERCIAL AND**  
9 **TRANSIT VEHICLES**

10 **SEC. 201. PROGRAM.**

11 (a) IN GENERAL.—The Secretary, in partnership  
12 with relevant research and development programs in other  
13 Federal agencies, and a range of appropriate industry  
14 stakeholders, shall carry out a program of cooperative re-  
15 search, development, demonstration, and commercial ap-  
16 plication activities on advanced technologies for medium-  
17 to heavy-duty commercial, vocational, recreational, and  
18 transit vehicles, including activities in the areas of—

- 19 (1) engine efficiency and combustion research;
- 20 (2) onboard storage technologies for compressed  
21 natural gas and liquefied petroleum gas;
- 22 (3) development and integration of engine tech-  
23 nologies designed for compressed natural gas and  
24 liquefied petroleum gas operation of a variety of ve-  
25 hicle platforms;

- 1 (4) waste heat recovery and conversion;
- 2 (5) improved aerodynamics and tire rolling re-
- 3 sistance;
- 4 (6) energy and space-efficient emissions control
- 5 systems;
- 6 (7) heavy hybrid, hybrid hydraulic, plug-in hy-
- 7 brid, and electric platforms, and energy storage
- 8 technologies;
- 9 (8) drivetrain optimization;
- 10 (9) friction and wear reduction;
- 11 (10) engine idle and parasitic energy loss reduc-
- 12 tion;
- 13 (11) electrification of accessory loads;
- 14 (12) onboard sensing and communications tech-
- 15 nologies;
- 16 (13) advanced lightweighting materials and ve-
- 17 hicle designs;
- 18 (14) increasing load capacity per vehicle;
- 19 (15) thermal management of battery systems;
- 20 (16) recharging infrastructure;
- 21 (17) compressed natural gas and liquefied pe-
- 22 troleum gas infrastructure;
- 23 (18) advanced internal combustion engines;
- 24 (19) complete vehicle modeling and simulation;

1           (20) hydrogen vehicle technologies, including  
2 fuel cells and internal combustion engines, and hy-  
3 drogen infrastructure;

4           (21) retrofitting advanced technologies onto ex-  
5 isting truck fleets; and

6           (22) integration of these and other advanced  
7 systems onto a single truck and trailer platform.

8       (b) LEADERSHIP.—The Secretary shall appoint a  
9 full-time Director to coordinate research, development,  
10 demonstration, and commercial application activities in  
11 medium- to heavy-duty commercial, recreational, and tran-  
12 sit vehicle technologies. Responsibilities of the Director  
13 shall be to—

14           (1) improve coordination and develop consensus  
15 between government agency and industry partners,  
16 and propose new processes for program management  
17 and priority setting to better align activities and  
18 budgets among partners;

19           (2) regularly convene workshops, site visits,  
20 demonstrations, conferences, investor forums, and  
21 other events in which information and research find-  
22 ings are shared among program participants and in-  
23 terested stakeholders;

24           (3) develop a budget for the Department's ac-  
25 tivities with regard to the interagency program, and

1 provide consultation and guidance on vehicle tech-  
2 nology funding priorities across agencies;

3 (4) determine a process for reviewing program  
4 technical goals, targets, and timetables and, where  
5 applicable, aided by life-cycle impact and cost anal-  
6 ysis, propose revisions or elimination based on pro-  
7 gram progress, available funding, and rate of tech-  
8 nology adoption;

9 (5) evaluate ongoing activities of the program  
10 and recommend project modifications, including the  
11 termination of projects, where applicable;

12 (6) recruit new industry participants to the  
13 interagency program, including truck, trailer, and  
14 component manufacturers who have not traditionally  
15 participated in federally sponsored research and  
16 technology development activities; and

17 (7) other responsibilities as determined by the  
18 Secretary, in consultation with interagency and in-  
19 dustry partners.

20 (c) REPORTING.—At the end of each fiscal year, the  
21 Secretary shall submit to the Congress an annual report  
22 describing activities undertaken in the previous year, ac-  
23 tive industry participants, efforts to recruit new partici-  
24 pants, progress of the program in meeting goals and

1 timelines, and a strategic plan for funding of activities  
2 across agencies.

3 **SEC. 202. CLASS 8 TRUCK AND TRAILER SYSTEMS DEM-**  
4 **ONSTRATION.**

5 The Secretary shall conduct a competitive grant pro-  
6 gram to demonstrate the integration of multiple advanced  
7 technologies on Class 8 truck and trailer platforms with  
8 a goal of improving overall freight efficiency, as measured  
9 in tons and volume of freight hauled or other work per-  
10 formance-based metrics, by 50 percent, including a com-  
11 bination of technologies listed in section 201(a). Applicant  
12 teams may be comprised of truck and trailer manufactur-  
13 ers, engine and component manufacturers, fleet cus-  
14 tomers, university researchers, and other applicants as ap-  
15 propriate for the development and demonstration of inte-  
16 grated Class 8 truck and trailer systems.

17 **SEC. 203. TECHNOLOGY TESTING AND METRICS.**

18 The Secretary, in coordination with the partners of  
19 the interagency research program described in section  
20 201(a)—

21 (1) shall develop standard testing procedures  
22 and technologies for evaluating the performance of  
23 advanced heavy vehicle technologies under a range of  
24 representative duty cycles and operating conditions,  
25 including for heavy hybrid propulsion systems;

1           (2) shall evaluate heavy vehicle performance  
2           using work performance-based metrics other than  
3           those based on miles per gallon, including those  
4           based on units of volume and weight transported for  
5           freight applications, and appropriate metrics based  
6           on the work performed by nonroad systems; and

7           (3) may construct heavy duty truck and bus  
8           testing facilities.

9   **SEC. 204. NONROAD SYSTEMS PILOT PROGRAM.**

10          The Secretary shall undertake a pilot program of re-  
11          search, development, demonstration, and commercial ap-  
12          plications of technologies to improve total machine or sys-  
13          tem efficiency for nonroad mobile equipment including ag-  
14          ricultural and construction equipment, and shall seek op-  
15          portunities to transfer relevant research findings and tech-  
16          nologies between the nonroad and on-highway equipment  
17          and vehicle sectors.

18   **SEC. 205. REPEAL OF EXISTING AUTHORITIES.**

19          (a) IN GENERAL.—Sections 706, 711, 712, and 933  
20          of the Energy Policy Act of 2005 (42 U.S.C. 16051,  
21          16061, 16062, 16233) are repealed.

22          (b) ENERGY EFFICIENCY.—Section 911 of the En-  
23          ergy Policy Act of 2005 (42 U.S.C. 16191) is amended—

24                 (1) in subsection (a)—

1 (A) in paragraph (1)(A), by striking “vehi-  
2 cles, buildings,” and inserting “buildings”; and  
3 (B) in paragraph (2)—  
4 (i) by striking subparagraph (A); and  
5 (ii) by redesignating subparagraphs  
6 (B) through (E) as subparagraphs (A)  
7 through (D), respectively; and  
8 (2) in subsection (c)—  
9 (A) by striking paragraph (3);  
10 (B) by redesignating paragraph (4) as  
11 paragraph (3); and  
12 (C) in paragraph (3) (as so redesignated),  
13 by striking “(a)(2)(D)” and inserting  
14 “(a)(2)(C)”.

15 (c) ENERGY STORAGE COMPETITIVENESS.—Section  
16 641 of the Energy Independence and Security Act of 2007  
17 (42 U.S.C. 17231) is amended—

18 (1) by striking subsection (j);  
19 (2) by redesignating subsections (k) through (p)  
20 as subsections (j) through (o), respectively; and  
21 (3) in subsection (o) (as so redesignated)—  
22 (A) in paragraph (2), by striking “and;”  
23 after the semicolon at the end;  
24 (B) in paragraph (4), by inserting “and”  
25 after the semicolon at the end;

- 1 (C) by striking paragraph (5);
- 2 (D) by redesignating paragraph (6) as
- 3 paragraph (5); and
- 4 (E) in paragraph (5) (as so redesignated),
- 5 by striking “subsection (k)” and inserting “sub-
- 6 section (j)”.

○

113TH CONGRESS  
1ST SESSION

# H. R. 1027

To provide for a program of research, development, demonstration, and commercial application in vehicle technologies at the Department of Energy.

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## IN THE HOUSE OF REPRESENTATIVES

MARCH 7, 2013

Mr. PETERS of Michigan introduced the following bill; which was referred to the Committee on Science, Space, and Technology

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## A BILL

To provide for a program of research, development, demonstration, and commercial application in vehicle technologies at the Department of Energy.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Advanced Vehicle  
5 Technology Act of 2013”.

6 **SEC. 2. FINDINGS.**

7 Congress finds the following:

8 (1) According to the Energy Information Ad-  
9 ministration, the transportation sector accounts for  
10 approximately 28 percent of the United States pri-

1       mary energy demand and greenhouse gas emissions,  
2       and 24 percent of global oil demand.

3               (2) The United States transportation sector is  
4       over 95 percent dependent on petroleum, and over  
5       60 percent of petroleum demand is met by imported  
6       supplies.

7               (3) United States heavy truck fuel consumption  
8       will increase 21 percent by 2030, while overall trans-  
9       portation energy use will decline by 2 percent.

10              (4) The domestic automotive and commercial  
11       vehicle manufacturing sectors have increasingly lim-  
12       ited resources for research, development, and engi-  
13       neering of advanced technologies.

14              (5) Vehicle, engine, and component manufactur-  
15       ers are playing a more important role in vehicle  
16       technology development, and should be better inte-  
17       grated into Federal research efforts.

18              (6) Priorities for the Department of Energy's  
19       vehicle technologies research have shifted drastically  
20       in recent years among diesel hybrids, hydrogen fuel  
21       cell vehicles, and plug-in electric hybrids, with little  
22       continuity among them.

23              (7) The integration of vehicle, communication,  
24       and infrastructure technologies has great potential

1 for efficiency gains through better management of  
2 the total transportation system.

3 (8) The Federal Government should balance its  
4 role in researching longer-term exploratory concepts  
5 and developing nearer-term transformational tech-  
6 nologies for vehicles.

7 **SEC. 3. OBJECTIVES.**

8 The objectives of this Act are to—

9 (1) develop United States technologies and  
10 practices that—

11 (A) improve the fuel efficiency and emis-  
12 sions of all vehicles produced in the United  
13 States; and

14 (B) reduce vehicle reliance on petroleum-  
15 based fuels;

16 (2) support domestic research, development, en-  
17 gineering, demonstration, and commercial applica-  
18 tion and manufacturing of advanced vehicles, en-  
19 gines, and components;

20 (3) enable vehicles to move larger volumes of  
21 goods and more passengers with less energy and  
22 emissions;

23 (4) develop cost-effective advanced technologies  
24 for wide-scale utilization throughout the passenger,  
25 commercial, government, and transit vehicle sectors;

1           (5) allow for greater consumer choice of vehicle  
2 technologies and fuels;

3           (6) shorten technology development and inte-  
4 gration cycles in the vehicle industry;

5           (7) ensure a proper balance and diversity of  
6 Federal investment in vehicle technologies; and

7           (8) strengthen partnerships between Federal  
8 and State governmental agencies and the private  
9 and academic sectors.

10 **SEC. 4. DEFINITIONS.**

11 For the purposes of this Act:

12           (1) DEPARTMENT.—The term “Department”  
13 means the Department of Energy.

14           (2) SECRETARY.—The term “Secretary” means  
15 the Secretary of Energy.

16 **SEC. 5. AUTHORIZATION OF APPROPRIATIONS.**

17 There are authorized to be appropriated to the Sec-  
18 retary for United States research, development, engineer-  
19 ing, demonstration, and commercial application of vehicles  
20 and related technologies, including activities authorized  
21 under this Act, such sums as may be necessary for each  
22 of fiscal years 2014 through 2018.

1     **TITLE I—VEHICLE RESEARCH**  
2             **AND DEVELOPMENT**

3     **SEC. 101. PROGRAM.**

4             (a) **ACTIVITIES.**—The Secretary shall conduct a pro-  
5 gram of basic and applied research, development, engi-  
6 neering, demonstration, and commercial application activi-  
7 ties on materials, technologies, and processes with the po-  
8 tential to substantially reduce or eliminate petroleum use  
9 and the emissions of the Nation’s passenger and commer-  
10 cial vehicles, including activities in the areas of—

- 11             (1) hybridization or full electrification of vehicle  
12             systems;
- 13             (2) batteries and other energy storage devices;
- 14             (3) power electronics;
- 15             (4) vehicle, component, and subsystem manu-  
16             facturing technologies and processes;
- 17             (5) engine efficiency and combustion optimiza-  
18             tion;
- 19             (6) waste heat recovery;
- 20             (7) transmission and drivetrains;
- 21             (8) hydrogen vehicle technologies, including fuel  
22             cells and internal combustion engines, and hydrogen  
23             infrastructure;
- 24             (9) compressed natural gas vehicle technologies;

- 1           (10) aerodynamics, rolling resistance, and ac-
- 2           cessory power loads of vehicles and associated equip-
- 3           ment;
- 4           (11) vehicle weight reduction, including
- 5           lightweighting materials;
- 6           (12) friction and wear reduction;
- 7           (13) engine and component durability;
- 8           (14) innovative propulsion systems;
- 9           (15) advanced boosting systems;
- 10          (16) hydraulic hybrid technologies;
- 11          (17) engine compatibility with and optimization
- 12          for a variety of transportation fuels including nat-
- 13          ural gas and other liquid and gaseous fuels;
- 14          (18) predictive engineering, modeling, and sim-
- 15          ulation of vehicle and transportation systems;
- 16          (19) refueling and charging infrastructure for
- 17          alternative fueled and electric or plug-in electric hy-
- 18          brid vehicles, including the unique challenges facing
- 19          rural areas;
- 20          (20) gaseous fuels storage systems and system
- 21          integration and optimization;
- 22          (21) sensing, communications, and actuation
- 23          technologies for vehicle, electrical grid, and infra-
- 24          structure;

1           (22) efficient use, substitution, and recycling of  
2 potentially critical materials in vehicles, including  
3 rare earth elements and precious metals, at risk of  
4 supply disruption;

5           (23) aftertreatment technologies;

6           (24) thermal management of battery systems;

7           (25) retrofitting advanced vehicle technologies  
8 to existing vehicles;

9           (26) development of common standards, speci-  
10 fications, and architectures for both transportation  
11 and stationary battery applications;

12           (27) advanced internal combustion engines;

13           (28) mild hybrid;

14           (29) engine down speeding; and

15           (30) other research areas as determined by the  
16 Secretary.

17       (b) TRANSFORMATIONAL TECHNOLOGY.—The Sec-  
18 retary shall ensure that the Department continues to sup-  
19 port research, development, engineering, demonstration,  
20 and commercial application activities and maintains com-  
21 petency in mid- to long-term transformational vehicle tech-  
22 nologies with potential to achieve deep reductions in petro-  
23 leum use and emissions, including activities in the areas  
24 of—

1           (1) hydrogen vehicle technologies, including fuel  
2 cells, internal combustion engines, hydrogen storage,  
3 infrastructure, and activities in hydrogen technology  
4 validation and safety codes and standards;

5           (2) multiple battery chemistries and novel en-  
6 ergy storage devices, including nonchemical batteries  
7 and electromechanical storage technologies such as  
8 hydraulics, flywheels, and compressed air storage;

9           (3) communication and connectivity among ve-  
10 hicles, infrastructure, and the electrical grid; and

11           (4) other innovative technologies research and  
12 development, as determined by the Secretary.

13       (c) INDUSTRY PARTICIPATION.—To the maximum  
14 extent practicable, activities under this Act shall be carried  
15 out in partnership or collaboration with automotive manu-  
16 facturers, heavy commercial, vocational, and transit vehi-  
17 cle manufacturers, qualified plug-in electric vehicle manu-  
18 facturers, compressed natural gas vehicle manufacturers,  
19 vehicle and engine equipment and component manufactur-  
20 ers, manufacturing equipment manufacturers, advanced  
21 vehicle service providers, fuel producers and energy sup-  
22 pliers, electric utilities, universities, national laboratories,  
23 and independent research laboratories. In carrying out  
24 this Act the Secretary shall—

1           (1) determine whether a wide range of compa-  
2           nies that manufacture or assemble vehicles or com-  
3           ponents in the United States are represented in on-  
4           going public private partnership activities, including  
5           firms that have not traditionally participated in fed-  
6           erally sponsored research and development activities,  
7           and where possible, partner with such firms that  
8           conduct significant and relevant research and devel-  
9           opment activities in the United States;

10           (2) leverage the capabilities and resources of,  
11           and formalize partnerships with, industry-led stake-  
12           holder organizations, nonprofit organizations, indus-  
13           try consortia, and trade associations with expertise  
14           in the research and development of, and education  
15           and outreach activities in, advanced automotive and  
16           commercial vehicle technologies;

17           (3) develop more efficient processes for trans-  
18           ferring research findings and technologies to indus-  
19           try;

20           (4) give consideration to conversion of existing  
21           or former vehicle technology development or manu-  
22           facturing facilities for the purposes of this Act;

23           (5) establish and support public-private part-  
24           nerships, dedicated to overcoming barriers in com-  
25           mercial application of transformational vehicle tech-

1 nologies, that utilize such industry-led technology de-  
2 velopment facilities of entities with demonstrated ex-  
3 pertise in successfully designing and engineering  
4 pre-commercial generations of such transformational  
5 technology; and

6 (6) promote efforts to ensure that technology  
7 research, development, engineering, and commercial  
8 application activities funded under this Act are car-  
9 ried out in the United States.

10 (d) INTERAGENCY AND INTRAAGENCY COORDINA-  
11 TION.—To the maximum extent practicable, the Secretary  
12 shall coordinate research, development, demonstration,  
13 and commercial application activities among—

14 (1) relevant programs within the Department,  
15 including—

16 (A) the Office of Energy Efficiency and  
17 Renewable Energy;

18 (B) the Office of Science;

19 (C) the Office of Electricity Delivery and  
20 Energy Reliability;

21 (D) the Office of Fossil Energy;

22 (E) the Advanced Research Projects Agen-  
23 cy—Energy; and

24 (F) other offices as determined by the Sec-  
25 retary; and

1           (2) relevant technology research and develop-  
2           ment programs within other Federal agencies, as de-  
3           termined by the Secretary.

4           (e) COORDINATION AND NONDUPLICATION.—In co-  
5           ordinating activities the Secretary shall ensure, to the  
6           maximum extent practicable, that activities do not dupli-  
7           cate those of other programs within the Department or  
8           other relevant research agencies.

9           (f) FEDERAL DEMONSTRATION OF TECH-  
10          NOLOGIES.—The Secretary shall make information avail-  
11          able to procurement programs of Federal agencies regard-  
12          ing the potential to demonstrate technologies resulting  
13          from activities funded through programs under this Act.

14          (g) INTERGOVERNMENTAL COORDINATION.—The  
15          Secretary shall seek opportunities to leverage resources  
16          and support initiatives of State and local governments in  
17          developing and promoting advanced vehicle technologies,  
18          manufacturing, and infrastructure.

19          (h) CRITERIA.—When awarding grants under this  
20          program, the Secretary shall give priority to those tech-  
21          nologies (either individually or as part of a system) that—

22                 (1) provide the greatest aggregate fuel savings  
23                 based on the reasonable projected sales volumes of  
24                 the technology; and

1           (2) provide the greatest increase in United  
2 States employment.

3 **SEC. 102. SENSING AND COMMUNICATIONS TECH-**  
4 **NOLOGIES.**

5           The Secretary, in coordination with the relevant re-  
6 search programs of other Federal agencies, shall conduct  
7 research, development, engineering, and demonstration ac-  
8 tivities on connectivity of vehicle and transportation sys-  
9 tems, including on sensing, computation, communication,  
10 and actuation technologies that allow for reduced fuel use,  
11 optimized traffic flow, and vehicle electrification, including  
12 technologies for—

13           (1) onboard vehicle, engine, and component  
14 sensing and actuation;

15           (2) vehicle-to-vehicle sensing and communica-  
16 tion;

17           (3) vehicle-to-infrastructure sensing and com-  
18 munication; and

19           (4) vehicle integration with the electrical grid.

20 **SEC. 103. MANUFACTURING.**

21           The Secretary shall carry out a research, develop-  
22 ment, engineering, demonstration, and commercial appli-  
23 cation program of advanced vehicle manufacturing tech-  
24 nologies and practices, including innovative processes to—

- 1           (1) increase the production rate and decrease  
2 the cost of advanced battery manufacturing;
- 3           (2) vary the capability of individual manufac-  
4 turing facilities to accommodate different battery  
5 chemistries and configurations;
- 6           (3) reduce waste streams, emissions, and energy  
7 intensity of vehicle, engine, advanced battery and  
8 component manufacturing processes;
- 9           (4) recycle and remanufacture used batteries  
10 and other vehicle components for reuse in vehicles or  
11 stationary applications;
- 12           (5) produce cost-effective lightweight materials  
13 such as advanced metal alloys, polymeric composites,  
14 and carbon fiber;
- 15           (6) produce lightweight high pressure storage  
16 systems for gaseous fuels;
- 17           (7) design and manufacture purpose-built hy-  
18 drogen and fuel cell vehicles and components;
- 19           (8) improve the calendar life and cycle life of  
20 advanced batteries; and
- 21           (9) produce permanent magnets for advanced  
22 vehicles.

1 **SEC. 104. USER TESTING FACILITIES.**

2 Activities under this Act may include construction,  
3 expansion, or modification of new and existing vehicle, en-  
4 gine, and component research and testing facilities for—

5 (1) testing or simulating interoperability of a  
6 variety of vehicle components and systems;

7 (2) subjecting whole or partial vehicle platforms  
8 to fully representative duty cycles and operating con-  
9 ditions;

10 (3) developing and demonstrating a range of  
11 chemistries and configurations for advanced vehicle  
12 battery manufacturing; and

13 (4) developing and demonstrating test cycles for  
14 new and alternative fuels, and other advanced vehi-  
15 cle technologies.

16 **SEC. 105. REPORTING.**

17 (a) **TECHNOLOGIES DEVELOPED.**—Not later than 18  
18 months after the date of enactment of this Act and annu-  
19 ally thereafter through 2019, the Secretary of Energy  
20 shall transmit to Congress a report regarding the tech-  
21 nologies developed as a result of the activities authorized  
22 by this title, with a particular emphasis on whether the  
23 technologies were successfully adopted for commercial ap-  
24 plications, and if so, whether products relying on those  
25 technologies are manufactured in the United States.

1 (b) ADDITIONAL MATTERS.—At the end of each fis-  
2 cal year through 2019 the Secretary shall submit to the  
3 relevant congressional committees of jurisdiction an an-  
4 nual report describing activities undertaken in the pre-  
5 vious year under this title, active industry participants, ef-  
6 forts to recruit new participants committed to design, en-  
7 gineering, and manufacturing of advanced vehicle tech-  
8 nologies in the United States, progress of the program in  
9 meeting goals and timelines, and a strategic plan for fund-  
10 ing of activities across agencies.

11 **TITLE II—MEDIUM- AND HEAVY-**  
12 **DUTY COMMERCIAL AND**  
13 **TRANSIT VEHICLES**

14 **SEC. 201. PROGRAM.**

15 (a) IN GENERAL.—The Secretary, in partnership  
16 with relevant research and development programs in other  
17 Federal agencies, and a range of appropriate industry  
18 stakeholders, shall carry out a program of cooperative re-  
19 search, development, demonstration, and commercial ap-  
20 plication activities on advanced technologies for medium-  
21 to heavy-duty commercial, vocational, recreational, and  
22 transit vehicles, including activities in the areas of—

- 23 (1) engine efficiency and combustion research;  
24 (2) onboard storage technologies for compressed  
25 and liquefied natural gas;

- 1 (3) development and integration of engine tech-
- 2 nologies designed for natural gas operation of a vari-
- 3 ety of vehicle platforms;
- 4 (4) waste heat recovery and conversion;
- 5 (5) improved aerodynamics and tire rolling re-
- 6 sistance;
- 7 (6) energy and space-efficient emissions control
- 8 systems;
- 9 (7) mild hybrid, heavy hybrid, hybrid hydraulic,
- 10 plug-in hybrid, and electric platforms, and energy
- 11 storage technologies;
- 12 (8) drivetrain optimization;
- 13 (9) friction and wear reduction;
- 14 (10) engine idle and parasitic energy loss reduc-
- 15 tion;
- 16 (11) electrification of accessory loads;
- 17 (12) onboard sensing and communications tech-
- 18 nologies;
- 19 (13) advanced lightweighting materials and ve-
- 20 hicle designs;
- 21 (14) increasing load capacity per vehicle;
- 22 (15) thermal management of battery systems;
- 23 (16) recharging infrastructure;
- 24 (17) compressed natural gas infrastructure;
- 25 (18) advanced internal combustion engines;

1 (19) complete vehicle and power pack modeling,  
2 simulation, and testing;

3 (20) hydrogen vehicle technologies, including  
4 fuel cells and internal combustion engines, and hy-  
5 drogen infrastructure;

6 (21) retrofitting advanced technologies onto ex-  
7 isting truck fleets;

8 (22) advanced boosting systems;

9 (23) engine down speeding; and

10 (24) integration of these and other advanced  
11 systems onto a single truck and trailer platform.

12 (b) LEADERSHIP.—The Secretary shall appoint a  
13 full-time Director to coordinate research, development,  
14 demonstration, and commercial application activities in  
15 medium- to heavy-duty commercial, recreational, and tran-  
16 sit vehicle technologies. Responsibilities of the Director  
17 shall be to—

18 (1) improve coordination and develop consensus  
19 between government agency and industry partners,  
20 and propose new processes for program management  
21 and priority setting to better align activities and  
22 budgets among partners;

23 (2) regularly convene workshops, site visits,  
24 demonstrations, conferences, investor forums, and  
25 other events in which information and research find-

1       ings are shared among program participants and in-  
2       terested stakeholders;

3               (3) develop a budget for the Department's ac-  
4       tivities with regard to the interagency program, and  
5       provide consultation and guidance on vehicle tech-  
6       nology funding priorities across agencies;

7               (4) determine a process for reviewing program  
8       technical goals, targets, and timetables and, where  
9       applicable, aided by life-cycle impact and cost anal-  
10      ysis, propose revisions or elimination based on pro-  
11      gram progress, available funding, and rate of tech-  
12      nology adoption;

13              (5) evaluate ongoing activities of the program  
14      and recommend project modifications, including the  
15      termination of projects, where applicable;

16              (6) recruit new industry participants to the  
17      interagency program, including truck, trailer, and  
18      component manufacturers who have not traditionally  
19      participated in federally sponsored research and  
20      technology development activities; and

21              (7) other responsibilities as determined by the  
22      Secretary, in consultation with interagency and in-  
23      dustry partners.

24      (c) REPORTING.—At the end of each fiscal year, the  
25      Secretary shall submit to the Congress an annual report

1 describing activities undertaken in the previous year, ac-  
2 tive industry participants, efforts to recruit new partici-  
3 pants, progress of the program in meeting goals and  
4 timelines, and a strategic plan for funding of activities  
5 across agencies.

6 **SEC. 202. CLASS 8 TRUCK AND TRAILER SYSTEMS DEM-**  
7 **ONSTRATION.**

8 The Secretary shall conduct a competitive grant pro-  
9 gram to demonstrate the integration of multiple advanced  
10 technologies on Class 8 truck and trailer platforms with  
11 a goal of improving overall freight efficiency, as measured  
12 in tons and volume of freight hauled or other work per-  
13 formance-based metrics, by 50 percent, including a com-  
14 bination of technologies listed in section 201(a). Applicant  
15 teams may be comprised of truck and trailer manufactur-  
16 ers, engine and component manufacturers, fleet cus-  
17 tomers, university researchers, and other applicants as ap-  
18 propriate for the development and demonstration of inte-  
19 grated Class 8 truck and trailer systems.

20 **SEC. 203. TECHNOLOGY TESTING AND METRICS.**

21 The Secretary, in coordination with the partners of  
22 the interagency research program described in section  
23 201(a)—

24 (1) shall develop standard testing procedures  
25 and technologies for evaluating the performance of

1 advanced heavy vehicle technologies under a range of  
2 representative duty cycles and operating conditions,  
3 including for heavy hybrid propulsion systems;

4 (2) shall evaluate heavy vehicle performance  
5 using work performance-based metrics other than  
6 those based on miles per gallon, including those  
7 based on units of volume and weight transported for  
8 freight applications, and appropriate metrics based  
9 on the work performed by nonroad systems; and

10 (3) may construct heavy duty truck and bus  
11 testing facilities.

12 **SEC. 204. NONROAD SYSTEMS PILOT PROGRAM.**

13 The Secretary shall undertake a pilot program of re-  
14 search, development, demonstration, and commercial ap-  
15 plications of technologies to improve total machine or sys-  
16 tem efficiency for nonroad mobile equipment including ag-  
17 ricultural and construction equipment, and shall seek op-  
18 portunities to transfer relevant research findings and tech-  
19 nologies between the nonroad and on-highway equipment  
20 and vehicle sectors.

○

# ATTACHMENT 5

## SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

### LEGISLATIVE REPORT FROM HOME RULE ADVISORY GROUP MEETING OF FEBRUARY 19, 2014

HRAG members present:

Dr. Joseph Lyou, Chairman

Dr. Elaine Chang, SCAQMD

Elizabeth Adams, EPA (participated by phone)

Mike Carroll, Latham & Watkins on behalf of the Regulatory Flexibility Group

Curt Coleman, Southern California Air Quality Alliance

Chris Gallenstein, CARB (participated by phone)

Jayne Joy, Eastern Municipal Water District

Bill LaMarr, California Small Business Alliance

Rongsheng Luo, SCAG (participated by phone)

Dan McGivney on behalf of Lee Wallace, So Cal Gas and SDG&E

Art Montez, AMA International

Bill Quinn, CCEEB (participated by phone)

Terry Roberts, American Lung Association of California

David Rothbart, Los Angeles County Sanitation Districts

Mike Wang, Western States Petroleum Association (WSPA)

SCAQMD staff: Philip Crabbe, Bill Wong, and Marilyn Traynor

#### **LEGISLATIVE UPDATE**

Philip Crabbe provided the following report on items that were discussed at the Legislative Committee meeting on February 14, 2014:

#### **Federal**

Congress passed the debt ceiling extension which lasts into 2015. Congress has also passed the Omnibus Appropriations bill that includes funding for the government for the remainder of the 2014 fiscal year. Under the Omnibus bill, approximately \$10 million in funding was set aside for zero emission goods movement projects. The Senate Environment and Public Works Committee held its first surface transportation reauthorization bill hearing for the successor to MAP-21. Senator Boxer (Committee Chair) and Senator Vitter (R-Louisiana) indicated that they would like to move the bill out of committee by April 2014. The source of funding for the bill remains to be a key issue of debate. SCAQMD is seeking Congressional letters of support for the locomotive idling rule which will go before the Surface Transportation Board. Congressman Waxman has agreed to sign a letter of support. SCAQMD has been working with Congressman Ken Calvert and his staff to explore new opportunities to increase the Diesel Emission Reduction Act Program funding. The House Transportation Infrastructure Committee held a hearing on surface transportation reauthorization in January 2014.

The following bill was taken to the Legislative Committee for consideration:

Bill	Recommended Action
H.R. 3963 (Huffman) Federal Leadership in Energy Efficient Transportation (FLEET) Act of 2014	Support and recommend amendments

H.R. 3963 would require the United States Postal Service fleet to reduce its petroleum consumption by 2% each year over the next 10 years. The Legislative Committee approved staff's recommendation to support the bill and to recommend amendments.

State

AB 1102 (Allen) was referred to both the Senate Environmental Quality Committee and to the Senate Natural Resources Committee. There will not likely be a hearing on this bill until June. If AB 1102 passes both committees, the bill will then go to the Senate Appropriations Committee. Over 1,000 bills are expected to be introduced by the state bill introduction deadline of February 21, 2014. There are two soon to be introduced bills that are relevant to SCAQMD. Senator Pavley is the author of a proposed bill that will create a new 2030 interim target carbon reduction goal in line with the previous targets of 2020 set by AB 32 and 2050 set by a previous Governor's Executive Order. Senator Steinberg is the author of a proposed bill that will create a carbon tax, similar to a gas tax, and will remove transportation fuels from under the purview of the Cap and Trade Program under AB 32. Monies collected by this bill would help fund an earned income tax credit for low income workers. SCAQMD staff has been working with CAPCOA, Speaker Pérez's staff, and environmental groups on language for AB 1330 (Pérez). The bill focuses on seeking to increase penalties for serious serial violators of environmental laws. SCAQMD has provided some draft legislative language for consideration and will continue to work with the author and stakeholders to move toward common language. Dr. Lyou asked staff to distribute the document to the HRAG.

Discussion

Mr. Quinn asked if a copy of SCAQMD's proposed language for AB 1330 could be provided to the HRAG. Rita Loof (RadTech) suggested that staff redistribute to the HRAG a document noting staff's recommendations on AB 1330 that had been distributed at a previous Legislative Committee meeting.